This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claims 1-55 (Canceled).

56(currently amended). A process for the solid phase continuous polymerisation of polyesters, comprising the steps of:

preparing a mass of polyester prepolymer granules [[,]] comprising at least one polyester;

feeding said polyester prepolymer granules to a crystallizer and heating them to a temperature of about 140°C to about 235°C to cause the crystallization of the granules;

feeding said crystallized granules into a generally horizontal, cylindrical, heated, first rotating reactor, said first reactor being slightly inclined downwardly from a feeding end thereof;

producing a purge gas flow inside said first reactor to increase the intrinsic viscosity of said at least one polyester.

57-58 (canceled).

59(Previously presented). The process according to claim 56, wherein the polyester granules fed into said first reactor have a temperature in the range of 185-225°C.

60(previously presented). The process according to claim 56, wherein the polyester granules fed into said first reactor have a temperature in the range of 180-230°C.

61(previously presented). The process according to claim 56, wherein the polyester granules fed into said first reactor have a crystallisation degree (X_c) greater than 10%.

62(previously presented). The process according to claim 56, wherein the polyester granules fed into said first reactor have a crystallisation degree (X_c) greater than 20%.

63(previously presented). The process according to claim 56, wherein the polyester granules fed into said first reactor have a minimum crystallisation degree (X_c) in the range of 0 - 70%.

64-83(canceled).

84(Previously presented). The process according to claim 56, wherein said purge gas is an inert gas or air.

85(previously presented). The process according to claims 56, wherein said purge gas is air with a dew point less than -30° C.

86(previously presented). The process according to claim 56, wherein the purge gas is a mixture of gases chosen from the group consisting of nitrogen, noble gases, carbon dioxide, carbon monoxide and oxygen, and wherein the oxygen content is less than 10% by weight.

87(previously presented). The process according to claim 56, wherein said purge gas is a mixture of gases chosen from the group consisting of nitrogen, noble gases,

carbon dioxide, carbon monoxide and oxygen, and wherein the oxygen content is less than 6% by weight.

88(previously presented). The process according to claim 56, wherein the purge gas has been purified of organic impurities to a level less than or equal to100 p.p.m. by weight (CH_4 equivalent) and is then recycled to the first reactor.

89(previously presented). The process according to claim 56, wherein said at least one polyester is polyester having at least about 75% of its acid moieties provided by terephthalic acid.

90(previously presented). The process according to claim 89, wherein the polyester has an IPA (Isophthalic Acid) content in the range of 1-20%.

91(previously presented). The process according to claim 89, wherein the granules of polyester fed into said first reactor have an intrinsic viscosity in the range between 0.55 and 0.65 dl/g.

92(previously presented). The process according to claim 89, wherein the granules of polyester fed into said first reactor have an intrinsic viscosity in the range between 0.25 and 0.75 dl/g.

93(previously presented). The process according to claim 56, wherein said at least one polyester is PEN polyethylene naphthalate.

94(previously presented). The process according to claim 56, wherein said at least one polyester is PBT polybutylene terephthalate.

96(previously presented). The process according to claim 56, wherein the granules are cube-shaped with volumes between 1 mm^3 and 125 mm^3.

97(previously presented). The process according to claim 56, wherein the granules are spherical with a diameter between 1 mm and 5 mm.

98(previously presented). The process according to claim 56, wherein the granules are extended cylinders of length less than 10 mm and circular or square cross-section having, respectively, a diameter or side less than 5 mm.

99(previously presented). The process according to claim 56, wherein the polyester granules are pancake-like platelets of diameter less than 3 mm and thickness less than 3 mm.

100(previously presented). The process according to claim 56, wherein the polyester granules have an irregular shape with a volume between 1 and 125 mm^3.

101(previously presented). The process according to claim 56, wherein the mass of prepolymer crystallised granules is achieved by subjecting the polyester granules to a crystallisation step in a fluidised-bed crystallizer having at least one bed, said bed being fluidised by means of a gas flow sufficient to generate the fluidisation of the polyester granules with or without mechanical vibration.

102(previously presented). The process according to claim 101, wherein said gases employed for the crystallisation are inert gases or air.

103(previously presented). The process according to claim 101, wherein said crystallisation step is performed with a residence time selected from the group consisting of between 2 and 20 minutes and 10 to 15 minutes.

103(previously presented). The process according to claim 101, wherein said crystallisation step is performed with a residence time selected from the group consisting of between 2 and 20 minutes and 10 to 15 minutes.

104(previously presented). The process according to claim 56, wherein the granules are heated to cause the crystallisation up to temperatures between 200-225° C.

105(previously presented). The process according to claim 56, wherein the polyester granules inside said first reactor are subjected to at least one of a solid phase polycondensation, drying, and dealdehydisation.

106(previously presented). The process according to claim 56, wherein the intrinsic viscosity of the polyester is increased at least 0.35 dl/g.

107(previously presented). The process according to claim 89, wherein the intrinsic viscosity of the polyester is increased at least 0.4 dl/g.

108(canceled).

109(previously presented). The process of clam 56, which allows a high degree of plug flow to yield high uniformity and homogeneity of the final product.

110(previously presented). The process of claim 109 wherein the rotating reactor is at an angle of 0.1 to 12 degrees to the horizon and rotates at a speed of 0.1 to 10 rpm.

111(previously presented). The process of claim 101 wherein the rotating reactor is at an angle of 0.1 to 12 degrees to the horizon and rotates at a speed of 0.1 to 10 rpm.

112(new). The process of claim 111, wherein the granules form a bed of granules in the rotating reactor with a maximum height of 4 to 5 meters.

113(new). The process of claim 112, wherein the granules internal of the bed behave as a rigid body and rotate at the same rate as the rotating reactor and when said particles are at the surface of the bed, slide at the surface and are subject to an inert purge gas flowing in a direction counter current to the flow of the granules.

114(new). The process of claim 113, which contain multiple reactors in series and in which the purge gas flow rate in any one reactor does not exceed the purge gas flow rate in any other reactor by 1.25 times.

115(new). The process of claim 114, wherein the temperature in the first reactor is from 205° C to 220° C and the temperature is progressively higher downstream in a second or further reactor.

116(new). The process of claim 115, which has a production output of greater than 300 metric tons per day of polyethylene terephthalate for beverage bottles.

117(new). The process of claim 112, wherein the degree of crystallization is from 10-30% when the granules enter the first rotating reactor.

118(new). The process of claim 56 further comprising the step of forming beverage bottles from said granules from said rotating reactor.